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FINANCIAL AND STATUS REPORT

SEPTEMBER 1957

U. S. - 132

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I. FINANCIAL

Amount authorized	$60,000
Funds expended (As of October 1, 1957)	9,420
Funds Committed	0
Funds Remaining	50,580

II. STATUS

Image Recognition

The scanner described in the previous status report has been completed and is being checked out. The unit for making sensitivity measurements has also been completed and is ready to be calibrated.

Consideration is being given to the basic circuits that would be needed if the system were to use scanning in the vertical direction instead of the column of elemental pickups originally proposed. The scanning method appears to introduce serious complications in handling any but a perfectly uniform background, without any change in luminosity over the total vertical aperture area other than that caused by the target. It is required that the system should be able to handle a non-uniform background and eventually one which varies slowly with time. This study is continuing.

A study is being made to select a suitable photoelectric pickup for the vertical slits which detect the horizontal image motion. Tests are being made of an arrangement of cylindrical lenses to focus a slim rectangle into a small spot. Also, lucite collectors are being designed which could gather the light from a slit in the plane of an undistorted image and bring it to a small spot. These both presume the use of a small-area photo sensitive device. The possibility of obtaining a large-area device will also be investigated. The slit pickup device may have trouble with signal to background ratio, depending on the nature and extent of the leading edge of the object. This situation can be improved by cutting the slit into sections with independent pickups and combining the signals non-linearly. The device that is finally selected should be amenable to such sectionalising.

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